



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Re Application of:

Serial No.: 10/669,215

Group Art Unit: 1711

Filed: September 24, 2003

Examiner: D. Buttner

For: POLYESTER/POLYCARBONATE BLENDS WITH REDUCED
YELLOWNESS

Mail Stop Appeal Brief - Patents
Commissioner for Patents
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REPLY BRIEF

This is a reply to the Examiner's Answer dated September 6, 2006.

In the paragraph bridging pages 5-6 of the Answer, the Examiner alleges that a 22% overlap between the claimed range and Sublett's range "constitute[s] the sufficient specificity required by MPEP 2131.03 to apply the overlapping reference as anticipatory." We dispute this allegation. The Examiner provides no basis for alleging that 22% constitutes "sufficient specificity" or that the degree of overlap even bears any relation to the "sufficient specificity" inquiry. Even if the degree of overlap is relevant to the inquiry, since more than 75% of Sublett's range does not overlap with the claimed range, Sublett's disclosure cannot be fairly said to be sufficiently specific of the claimed range to rise to the level of anticipation.

MPEP § 2131.03 doesn't speak of the degree of overlap. What it does say is that "[i]f the claims are directed to a narrow range, the reference teaches a broad range, and there is evidence of unexpected results within the claimed narrow range, depending on the other facts of the case, it may be reasonable to conclude that the narrow range is not disclosed with 'sufficient specificity' to constitute an anticipation of the claims." MPEP § 2131.03 at 2100-80 (Rev. 3, Aug. 2005). This statement is quite pertinent to the current facts. The claims are directed to a narrow range of 1-30 ppm Ti. Sublett

teaches broad range of 10-100 ppm. And there is evidence of unexpected results within the narrow range, which was discussed in Appellants' Brief at pages 7-8. Thus, it is reasonable, in this case, to conclude that the claimed range is not disclosed with "sufficient specificity" to constitute an anticipation.

On page 6 of the Answer, the Examiner alleges that Appellants' evidence of unexpected results is unconvincing because (1) the results are expected, and (2) the results are not a comparison with the closest prior art of Sublett. We disagree with this allegation.

At the outset, it should be noted that we presented evidence and argument that in addition to reduced yellowness, the present invention provides increased thermal and melt stability of the blends. See Appeal Brief at 7-8. In alleging that the results are expected, the Examiner, however, only addressed reduced yellowness and melt stability. See Examiner's Answer at 6 ("Appellant argues he has provided unexpected lowered yellowing and melt stability for the narrower titanium range which overcomes any prima facie obviousness."). The Examiner did not address thermal stability.

With regarding to melt stability, the Examiner alleges that "the Smith article (page 4237) indicates additional titanium causes a decrease in specific viscosity (ie poor melt stability)." Examiner's Answer at 6. While Smith does say that "[t]he extra titanium seems to cause a slightly larger decrease in specific viscosity," Smith also says that "[t]he differences noted in Figure 6 are comparable to the experimental uncertainty." Smith at 4237 (emphasis added). Thus, the Examiner's conclusion cannot be drawn from a fair reading of the document.

Another way to view Smith—a more scientifically sound way—is that the Ti level does not have an effect on melt stability. On page 3237 of Smith, additional Ti catalyst was added to a 50% blend, and no statistically significant increase or decrease in the specific viscosity, which is an indicator of melt stability, was observed. When viewed against the backdrop of Smith's data, it becomes apparent that Appellants' finding is quite unexpected. While Smith indicates that Ti level does not have an effect on melt stability, Appellants have shown the opposite. See Example 4 in the instant application.

Thus, while some may argue that the results of reduced yellowness are expected from lowering the Ti catalyst level, persons of ordinary skill in the art would not have expected the combination of improvement in color, melt stability, and thermal stability, as demonstrated in the present application. Accordingly, the results produced by the present invention are indeed unexpected.

With regard to the Examiner's allegation that the closest prior art has not been compared with, we respectfully submit that scientifically sound conclusions cannot be drawn from a comparison with Sublett. If we were to make a comparison with Sublett, there would be two variables instead of one. Sublett's catalyst differs from the present invention in both the Ti content and the level of alkali/alkaline earth metal. If such a comparison were made, no sound conclusion can be drawn based on the difference in Ti level, because there was another difference or variable between the two catalyst systems. Thus, a comparison with Sublett would not be fruitful.

In response to our argument that Hamilton and Smith suggest deactivating the Ti catalyst rather than minimizing its amount, the Examiner responds that "[t]he rejection does not rely on the inventive concept of Hamilton and Smith. These references were merely cited for their background discussions of the negative effects of residual titanium in polycarbonate/polyester blends." Examiner's Answer at 7. Apparently, the Examiner has overlooked that MPEP's instruction that "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. MPEP § 2141.02 at 2100-132 (Rev. 3, Aug. 2005) (emphasis in original).

If Hamilton and Smith were considered in their entirety, one skilled in the art would have been led away from the claimed invention. Rather than reducing Ti catalyst to deal with its negative effects, both Hamilton and Smith chose the more expensive option of using additives to deactivate the Ti catalyst, which could pose other problems such as the acid catalyzed degradation of PC during blend preparation. But by making that choice, Hamilton and Smith suggest that reducing the Ti catalyst level was not a viable option. Yet, this is the option that the present inventors chose and found along the way that it has unexpected benefits of having the combination of improved color, melt stability, and thermal stability.

CONCLUSION

For the foregoing reasons as well as those in Appellants' Brief, the rejections in the Final Office Action should be reversed.

Respectfully submitted,

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11-6-06
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